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BASELINE SURVEYS FOR MAMMALS

in the

HENRY MOUNTAINS, UTAH

Annual Report

Submitted to:

**Bureau of Land Management
Henry Mountain Resource Area
P. O. Box 99
Handkville, Utah 84734**

Handkville

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BASELINE SURVEYS FOR MAMMALS IN THE HENRY MOUNTAINS OF UTAH

Introduction--Field crews from National Biological Survey (NBS), or its predecessor agencies, and Texas Tech University (TTU) have been conducting baseline surveys for mammals in and near the Colorado Plateau since 1982. In recent years, under the terms of an Interagency Agreement between NBS and National Park Service (NPS), considerable work has been conducted on National Park Service lands near the Henry Mountains. For example, we have worked at Bryce Canyon, Capitol Reef, and Mesa Verde national parks, Glen Canyon National Recreation Area, and Natural Bridges National Monument. These studies have provided considerable new information on mammals of southern Utah, especially on small and secretive forms such as bats and rodents.

A significant and heretofore mostly unstudied area, adjacent to some parks listed above, is the Henry Mountains. Only limited work on mammals of the Henry Mountains has been done and few results have been published. In cooperation with the Hanksville office of Bureau of Land Management (BLM), which is responsible for managing the Henry Mountain Resource Area, we initiated surveys for mammals in the Henry Mts. in 1993. Our goals were to: (1) obtain current information on distribution and abundance of mammals, especially rodents, bats, and endemic taxa of the Henry Mts.; (2) compare the fauna of the Henry Mts. with adjacent areas to better understand the taxonomy and zoogeography of these mammals; and (3) provide such information as may be useful to land managers in this area.

Our first work in the Henry Mountains was conducted from 24 - 30 May 1993 from a base camp at Starr Springs. We surveyed bats and small rodents at field sites in this vicinity and made reconnaissances around Mt. Hillers by truck. Some information on bats obtained during this trip was provided to BLM in a letter (16 December 1993) from Bogan to Rick Fike, BLM, and subsequently provided to BLM Hanksville. In 1994, we spent the period from 13 - 23 July in the Henry Mts. conducting additional surveys. This report briefly summarizes information to date.

Itinerary--In 1993 we used Starr Springs as a base camp for all activities during our stay. Work in this area provided an excellent introduction to lower-elevation habitats and mammals of the Henry Mts. From Starr Springs, we netted bats and trapped rodents at nearby localities and explored areas around Trachyte Creek, Mt. Hillers, and Bull Creek, Mt. Ellen. We were accompanied by Todd A. Mattson, then a graduate student at the University of Wyoming. In 1994, we explored and worked at upper elevations of Mts. Ellen, Pennell, and Hillers and associated peaks. We did little netting for bats because of the moon phase.

Methods--Information obtained to date is summarized below by locality. In general, bats were captured with mist nets set over small pools or tanks of water and rodents were captured with live- and snaptraps set at sign or in areas thought to provide good habitat for particular species. Opportunistic observations on all mammals also were recorded. Voucher specimens are deposited in the Museum of Southwestern Biology, The University of New Mexico. Tissues from selected specimens were saved in liquid nitrogen for further analysis. Specimens taken as vouchers under permits issued by the Utah Division of Wildlife are reported to the division in January of each calendar year.

Results--(by locality, with USGS 7.5min quad name)

1993

UTAH: Garfield Co.; Henry Mtns., Starr Spring C.G., 6100'. This is the location of our first camp in the Henry Mountains. The campground has water, shade, restrooms, grills, and a number of sites to set up tents. This camp was used from 24-30 May 1993 as a base for all activities undertaken that year. Traps set among the rocks and oak in the campground yielded Cliff Chipmunk, Deer Mouse, Brush Mouse, and Desert Woodrat. The Long-tailed Vole was taken from cattail and rushes at the wet margins of the impoundment of Starr Spring below the main camping area. At this time there was very little open water in the spring impoundment but two nights netting produced Long-eared Myotis, Long-legged Myotis, Allen's Big-eared Bat, Hoary Bat, Pallid Bat, and Brazilian Free-tailed Bat. Copper Creek Benches quad.

UTAH: Garfield Co.; Henry Mtns., 3 mi W (by rd) Starr Spring C.G., 6100'. This locality is a small riparian community below the site of the Woodruff cabin. The immediate vicinity is dominated by cottonwood but the upland vegetation is piñon-juniper interspersed with sagebrush. On 26-27 May 1993 California Myotis, Long-eared Myotis, Fringed Myotis, Long-legged Myotis, and Silver-haired Bat were captured in nets placed over a bathtub-sized, dirt and stone pool just below where the road intersects the draw. Traps set above and below the road yielded Deer Mouse, Piñon Mouse, and Desert Woodrat. A single Long-tailed Vole was captured in running water in a small area of spikerush. Copper Creek Benches quad.

UTAH: Garfield Co.; Henry Mtns., 2.8 mi NE Starr Spring C.G., 6600'. This is the site of an apparently-failed resort or subdivision, although there are signs of recent habitation of a few structures. Two (one plastic-lined) small water impoundments were netted 28 May 1993 producing California Myotis, Long-eared Myotis, Long-legged Myotis, Yuma Myotis, Big Brown Bat, and Silver-haired Bat. There likely was a roost of Big Brown Bats nearby but a check of several buildings was unsuccessful. Cass Creek Peak quad.

1994

UTAH: Garfield Co.; Henry Mtns., 0.7 mi S (by rd) Lonesome Beaver C.G., 8400'. This site appears to be at the lower entrance to Blue basin as depicted on the Mt. Ellen 7.5' quadrangle. The canyon floor is dominated by Douglas fir and Aspen while further up on the canyon slopes there is yellow pine. The central feature of this locality is a small spring that crosses the road to join Bull Creek. On 13-15 July 1994, traps set in spring water among true mosses and spikerush captured Deer Mouse and Long-tailed Vole. The fallen timber and talus slopes above the road and spring added Uinta Chipmunk. Mule Deer were observed in the area in the evening hours. Mt. Ellen quad.

UTAH: Garfield Co.; Henry Mtns., 0.2 mi NW Lonesome Beaver C.G., 8200'. This site is southwest across Bull Creek from the Dandelion picnic area. On 15 July 1994 we trapped

ridges dominated by piñon-juniper and captured Uinta Chipmunk and Deer Mouse. Mt. Ellen quad.

UTAH: Garfield Co.; Henry Mtns., W side Bull Creek Pass, 10300'. [Magellan 38-04-02 x 110-48-19 x 10340'] Snow over the road prevented travel from Wickiup Pass to this site on 29 May 1993. We camped at this site 16-18 July 1994 in a stand of spruce, fir, limber pine, and aspen. The immediate area is private property and Keith Durfey gave us permission to camp here. The soil is very thin and there are few trees on the slopes but there are some shrubs, including prostrate juniper, and dense bunch grass in draws. Uinta Chipmunk and Deer Mouse were captured along the talus slopes, in fallen timber, and near trees while Western Harvest Mouse and Long-tailed Vole were captured only in the grass on the slopes. Our camp is presumably near the type locality for *Microtus longicaudus incanus* (1/4mi SE Burned Ridge, 10300'), the Mt. Ellen Long-tailed Vole. Mt. Ellen quad.

UTAH: Garfield Co.; Henry Mtns., 0.5 mi SE Cass Creek Peak, 8600'. [Magellan 37-54-10 x 110-42-16 x 8600'] This locality is at the end of an unmapped 4WD trail from Stanton Pass to the pass between Cass Creek Peak and Mt. Hillers. We camped and worked here 19-20 July 1994, capturing Uinta Chipmunk, Deer Mouse, and Long-tailed Vole. The immediate area is open and is dominated by yellow pine but there is Douglas fir along the trail below the site as well as along the old wagon trail to the Starr mine. A young Black-tailed Jackrabbit was observed as we were setting traps along the wagon trail. Cass Creek Peak quad.

UTAH: Garfield Co.; Henry Mtns., 0.5 mi SW Cass Creek Peak, 7800'. This locality is on the trail between Stanton Pass and Cass Creek Pass, and spans an ecotone between mixed-coniferous/yellow pine and piñon-juniper-oak-sage areas. Our goal here was to obtain information on spatial distribution of chipmunks on the slope. The site was trapped 20 July 1994 yielding Desert Cottontail, Cliff Chipmunk (below 7500'), Uinta Chipmunk (above 8000'), Western Harvest Mouse, and Deer Mouse. Cass Creek Peak quad.

UTAH: Garfield Co.; Henry Mtns., Hancock Spring, 1.5 mi N Mt. Pennell, 8900'. There is a cabin and fenced area above the spring proper but there was ample water and shade for camping. In fact the weather and ever-changing vista, particularly toward Capitol Reef N.P., made for a very pleasant experience. There are at least three pipes which apparently issue water at some time of the year, but on 21-22 July 1994 one was dry. The upper pipe is within a fenced area and has by far the greatest discharge; all water issues from an erect pipe onto the ground. A lower pipe was discharging to a metal tank that may have once been a boiler. The tank measures approximately 4' x 7'. A net placed over this tank captured Long-eared Myotis and Long-legged Myotis. The spring area is dominated by aspen, whereas the wooded areas above the cabin are Douglas fir. Much of the area to the west is dominated by sagebrush. Trap success was nearly 50%, yielding the Deer Mouse virtually everywhere. The Uinta Chipmunk was captured among rocks and fallen timber. Mt. Pennell quad.

UTAH: Garfield Co.; Henry Mtns., The Horn, 8800'. A trapline set up the gradual

incline on the south side of the Horn in mature piñon-juniper-Gambel oak on 22 July 1994, in hopes of obtaining the Piñon Mouse, yielded only the Deer Mouse. Mt. Pennell quad.

Endemic Species--There are three endemic subspecies of small mammals that have been described based on specimens from the Henry Mts. These three are: Mt. Ellen Uinta Chipmunk, *Eutamias umbrinus sedulus*; Mt. Ellen Pocket Gopher, *Thomomys bottae dissimilis*; and Mt. Ellen Long-tailed Vole, *Microtus longicaudus incanus*. Given the isolated nature of the Henry Mts. and the presumed isolation of these three subspecies from nearest relatives elsewhere, comments on their status at the times of our visits may be of interest.

Mt. Ellen Uinta Chipmunk--This subspecies was described as new on the basis of seven specimens taken by Osgood in the Henry Mts. (Mt. Ellen) in 1908. It was described by White (1953), primarily on the basis of paler color, as a part of his general revision of western chipmunks. Although specimens may have been taken since 1908 we have not yet determined if that is true. Lee and Durrant (1960), in their description of the new vole, reported collecting at several sites close to ours and it seems likely that there are specimens from the Henry Mts. at the University of Utah. We will attempt to verify this in 1995. In any case, there seems to have been nothing published on the chipmunk since it was described. The Henry Mts. are the southeastern-most locality of record of Uinta Chipmunks in Utah and the nearest population is presumably on Boulder Mt. to the west. We captured 42 Uinta chipmunks at localities on Mts. Ellen, Pennell, and Hillers during field work in 1994. Our observations suggest that these colorful animals were common, if not outright abundant, during our visit. They were most common in forested habitats with downed timber, much less so on talus slopes.

We also have captured the Cliff Chipmunk, *Eutamias dorsalis*, at lower elevations on Mt. Hillers and a third chipmunk, the Hopi Chipmunk, *Eutamias quadrivittatus hopiensis*, should occur at the lowermost elevations of the Henry Mts. However, during our work in 1994 it appeared that the Uinta Chipmunk was the only chipmunk to occur above 8000 ft. There appears to be abundant habitat for this species at present. It seems likely that the ranges of Uinta and Cliff chipmunks probably meet at about 7500-8000 ft in the Henry Mts. We have taken a few Hopi Chipmunks at Capitol Reef NP, where they are not common, but we found them to be fairly abundant at Glen Canyon NRA; they are most common below 5-6000 ft in rocky areas.

Mt. Ellen Long-tailed Vole--Lee and Durrant (1960) described the endemic, isolated race *Microtus longicaudus incanus* from 26 specimens taken from at least five locations in the mountains, none of the locations being below 7800 ft. These voles are presumed to be restricted to mesic sites; Lee and Durrant imply that they might not occur as low as 5800 ft and that this elevation might restrict their distribution. We captured 16 individuals from five locations, including two locations at 6100 ft. While the voles were never abundant, they occurred wherever there was suitable habitat.

Mt. Ellen Pocket Gopher--The three specimens upon which the subspecies *dissimilis* is based, also taken by Osgood, were from "east slope of Mount Ellen, Henry Mountains" at 8000

ft. They were described by Goldman as a new race in 1931. According to most published accounts this race most closely resembles the race *osgoodii* from the vicinity of Hanksville. Both are described as being somewhat smaller and paler than other nearby races. Although we have not searched extensively for gopher sign in the Henry Mts., we have not found any to date. During a hike of the Mt. Ellen summits on 17 July we did look closely for such sign and found none. Biologists working in the Henry Mts. should be encouraged to look for gopher sign when possible. It seems unlikely that gophers could have disappeared from the mountains.

Mammal Records of Note--

Marmots--During our ascent of the North Summit Ridge of Mt. Ellen in July 1994 we observed scat of Yellow-bellied marmot, *Marmota flaviventris*, on Mt. Ellen Peak, and on our descent we saw a marmot on the southwest side of the 11522 ft peak. The individual disappeared into the talus and was lost to view. We are not aware of published reports of this species from the Henry Mts.

Bats--We have captured 11 species of bats during our work to date in the Henry Mts.; additional work will probably result in the capture of two or three more species. Eight of the species we have captured were not surely known to occur in the Henry Mts. Of the species captured by us, Hasenyager (1980) notes records only for California Myotis, Long-legged Myotis, and Big Brown Bat. He records three species not yet taken by us: Western Small-footed Myotis, Little Brown Myotis, and Western Pipistrelle. We concur that the Western Small-footed Myotis and Western Pipistrelle should occur in the mountains, but we are skeptical of the record of Little Brown Myotis. Additional netting is needed to confirm its presence.

At this writing, we have no reason to suspect that bats in this area are declining. However, on November 15, 1994, the Fish and Wildlife Service added eight species or subspecies of bats to the list of Category 2 Candidate Species. Seven of these species occur in the Henry Mts.: Western Small-footed Myotis, Long-eared Myotis, Long-legged Myotis, Fringed Myotis, Yuma Myotis, Western Big-eared Bat (*Plecotus townsendii pallescens*), and Allen's Big-eared Bat. We are aware of no definitive information on population status or trends for these species that reveal downward trends but such information is badly needed for all these species. Additionally, it is imperative that caves or mines scheduled for closure be searched and evaluated as bat habitat prior to closure. Attention to pre-closure searches and enhanced public awareness of the important role bats play in the Henry Mts. ecosystem should insure that these species remain part of the fauna of the mountains.

Attachments: Updated List of Mammals of the Henry Mts.
Capture Records for 1993-1994

PRELIMINARY LIST OF THE MAMMALS OF THE HENRY MOUNTAINS, UTAH

Prepared by Tony R. Mollhagen and Michael A. Bogan—31 December 1994

The listing of species is based on the proximity of known ranges to the Henry Mountains, historical accounts, specimens examined, specimens collected, and literature records. Species or subspecies believed extirpated are indicated by a plus (+). Literature records are in parentheses. Specimens obtained by the present workers are indicated by the year of capture (93 or 94).

INSECTIVORA

Sorex cinereus

S. merriami

S. monticolus

S. nanus

S. palustris

Notiosorex crawfordi (Hoddenbach, 1978 [3.4 km NE, The Post])

CHIROPTERA

Myotis californicus (Hasenyager, 1980 [Sawmill Basin]) 93

M. ciliolabrum (Hasenyager, 1980 [Starr Spring, Sand Mountain of Henry Mountain?])

M. evotis 93, 94

M. lucifugus (Hasenyager, 1980 [Starr Spring])

M. volans (Hasenyager, 1980 [Sawmill Basin, Eagle]) 93, 94

M. thysanodes 93

M. yumanensis 93

Lasionycteris noctivagans 93

Lasiurus blossevillii

L. cinereus 93

Pipistrellus hesperus (Stanford, 1931 [King Ranch]; Hardy, 1941 [King Ranch]; Hasenyager, 1980 [Starr Spring; King Ranch])

Eptesicus fuscus (Hasenyager, 1980 [Starr Spring; Quaking Aspen Spring]) 93

Euderma maculatum

Plecotus townsendii

Idionycteris phyllotis 93

Antrozous pallidus 93

Tadarida brasiliensis 93

Nyctinomops macrotis

LAGOMORPHA

Sylvilagus audubonii (Stanford, 1931 [King Ranch]) 93, 94

S. nuttallii (Nelson, 1909 [Mount Ellen])

Lepus californicus 93

L. americanus ?

RODENTIA

- Eutamias dorsalis* (Egoscue, 1968 [Henry Mountains, 7,000 ft.]) 93, 94
E. quadrivittatus hopiensis
E. umbrinus sedulus (White, 1953—Type Loc.: Mount Ellen) 94
Marmota flaviventris 94 (observed)
Ammospermophilus leucurus (Stanford, 1931 [King Ranch])
Spermophilus lateralis
S. variegatus 93 (observed), 94 (observed)
Thomomys bottae dissimilis (Goldman, 1931—Type Loc.: east slope of Mount Ellen, 8,000 ft.)
Perognathus formosus ?
P. parvus
Dipodomys ordii (Stanford, 1931 [King Ranch])
Castor canadensis
Reithrodontomys megalotis 94
Peromyscus boylii
P. crinitus
P. maniculatus (Osgood, 1909 [Mount Ellen; Hanksville) 93, 94
P. truei 93
Onychomys leucogaster
Neotoma cinerea (Goldman, 1910 [Henry Mountains])
N. lepida (Stanford, 1931, as *desertorum* [King Ranch]) 93
Microtus longicaudus incanus (Lee and Durrant, 1960—Type Loc.: 1/4 mi SE of Burned Ridge, Mount Ellen, 10,300 ft.) 93, 94
M. montanus
Lemmiscus curtatus
Ondatra zibethicus
Zapus princeps
Erethizon dorsatum (Kelsey, 1990)

CARNIVORA

- Canis latrans* (Jackson, 1951 [Mount Ellen])
C. lupus +
Vulpes vulpes
Urocyon cinereoargenteus
Ursus americanus
U. arctos +
Bassariscus astutus
Procyon lotor ?
Mustela erminea
M. frenata
M. vison
Taxidea taxus
Spilogale gracilis
Mephitis mephitis
Felis concolor

Lynx rufus

ARTIODACTYLA

Cervus elaphus + (transplant failure?)

Odocoileus hemionus 93 (observed), 94 (observed)

Antilocapra americana +

Bison bison + (reintroduced—Van Vuren and Bray, 1986)

Ovis canadensis

Capra hircus (feral?; Kelsey, 1990)

HENRY MOUNTAINS CAPTURE RECORD SUMMARIES

1993

- UTAH: Garfield Co.; Henry Mtns., Starr Springs C.G., 6100' 24-May-93
1 *Myotis californicus*
2 *Myotis evotis*
1 *Antrozous pallidus*
- UTAH: Garfield Co.; Henry Mtns., Starr Springs C.G., 6100' 25-May-93
2 *Myotis volans*
1 *Idionycteris phyllotis*
17 *Peromyscus maniculatus*
3 *Peromyscus truei*
5 *Neotoma lepida*
6 *Microtus longicaudus*
- UTAH: Garfield Co.; Henry Mtns., Starr Springs C.G., 6100' 26-May-93
1 *Lasiurus cinereus*
1 *Tadarida brasiliensis*
2 *Eutamias dorsalis*
2 *Peromyscus maniculatus*
- UTAH: Garfield Co.; Henry Mtns., 3 mi W (by rd) Starr Springs C.G., 6100' 26-May-93
2 *Myotis californicus*
1 *Myotis evotis*
1 *Myotis thysanodes*
3 *Myotis volans*
1 *Lasionycteris noctivagans*
1 *Sylvilagus audubonii*
1 *Lepus californicus*
20 *Peromyscus truei*
8 *Neotoma lepida*
1 *Microtus longicaudus*
- UTAH: Garfield Co.; Henry Mtns., 2.8 mi NE Starr Springs C.G., 6600' 28-May-93
1 *Myotis californicus*
2 *Myotis evotis*
1 *Myotis volans*
1 *Myotis yumanensis*
1 *Lasionycteris noctivagans*
2 *Eptesicus fuscus*
- UTAH: Garfield Co.; Henry Mtns., Starr Springs C.G., 6100' 28-May-93
2 *Eutamias dorsalis*

UTAH: Garfield Co.; Henry Mtns., Starr Springs C.G., 6100' 29-May-93
2 *Eutamias dorsalis*

1994

UTAH: Garfield Co.; Henry Mtns., 0.7 mi S (by rd) Lonesome Beaver C.G., 8400' 13-Jul-94
1 *Eutamias umbrinus*
22 *Peromyscus maniculatus*
3 *Microtus longicaudus*

UTAH: Garfield Co.; Henry Mtns., 0.7 mi S (by rd) Lonesome Beaver C.G., 8400' 14-Jul-94
15 *Eutamias umbrinus*
7 *Peromyscus maniculatus*
1 *Microtus longicaudus*

UTAH: Garfield Co.; Henry Mtns., 0.2 mi S (by rd) Lonesome Beaver C.G., 8200' 15-Jul-94
1 *Eutamias umbrinus*
9 *Peromyscus maniculatus*

UTAH: Garfield Co.; Henry Mtns., W side Bull Creek Pass, 10300' 16-Jul-94
4 *Eutamias umbrinus*
1 *Reithrodontomys megalotis*
16 *Peromyscus maniculatus*
3 *Microtus longicaudus*

UTAH: Garfield Co.; Henry Mtns., W side Bull Creek Pass, 10300' 17-Jul-94
7 *Eutamias umbrinus*
1 *Reithrodontomys megalotis*
10 *Peromyscus maniculatus*

UTAH: Garfield Co.; Henry Mtns., 0.5 mi SE Cass Creek Peak, 8600' 19-Jul-94
2 *Eutamias umbrinus*
7 *Peromyscus maniculatus*
1 *Microtus longicaudus*

UTAH: Garfield Co.; Henry Mtns., 0.5 mi SE Cass Creek Peak, 8600' 20-Jul-94
6 *Eutamias umbrinus*
1 *Microtus longicaudus*

UTAH: Garfield Co.; Henry Mtns., 0.5 mi SW Cass Creek Peak, 7800' 20-Jul-94
1 *Sylvilagus audubonii*
1 *Eutamias dorsalis*
1 *Eutamias umbrinus*
1 *Reithrodontomys megalotis*
10 *Peromyscus maniculatus*

UTAH: Garfield Co.; Henry Mtns., Hancock Spring, 1.5 mi N Mt. Pennell, 8900' 21-Jul-94

- 1 *Myotis evotis*
- 5 *Myotis volans*
- 4 *Eutamias umbrinus*
- 10 *Peromyscus maniculatus*

UTAH: Garfield Co.; Henry Mtns., Hancock Spring, 1.5 mi N Mt. Pennell, 8900' 22-Jul-94

- 1 *Eutamias umbrinus*

UTAH: Garfield Co.; Henry Mtns., The Horn, 8800' 22-Jul-94

- 5 *Peromyscus maniculatus*

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